

EXHIBIT "A"



Disclosure BOC8-2002-0132

Prepared for and/or by an IBM Attorney - IBM Confidential

Created By Pradeep P Mansey On 12/17/2002 12:30:27 PM MST

Last Modified By Elaine Venturelli On 12/26/2002 12:07:01 PM EST

Required fields are marked with the asterisk (*) and must be filled in to complete the form .

*Title of disclosure (in English)

Autonomous systems and network management using speech

Summary

Status	Under Evaluation
Final Deadline	
Final Deadline	
Reason	
*Processing Location	~~Boca Raton~~
*Functional Area	select ~~(TM) Speech Development & Customization (Chicago)~~
Attorney/Patent Professional	Richard Tomlin/Boca Raton/IBM
IDT Team	select ~~David Reichen/West Palm Beach/IBM~~ ~~Mansey, Pradeep/West Palm Beach/IBM~~ ~~Stowe, Eric/West Palm Beach/IBM~~ ~~Mansey, Pradeep/West Palm Beach/IBM~~ ~~Mansey, Pradeep/Boca Raton/IBM~~ ~~Baiju Mandalia/Fort Lauderdale/IBM~~
Submitted Date	12/17/2002 01:21:47 PM MST
*Owning Division	select ~~142~~
Incentive Program	
Lab	
*Technology Code	~~2062~~
~~PVT Stage~~	

Inventors with a Blue Pages entry

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IDT Selection

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Response Due to IP&L 01/26/2003

*Main Idea

1. Background: What is the problem solved by your invention? Describe known solutions to this problem (if any). What are the drawbacks of such known solutions, or why is an additional solution required? Cite any relevant technical documents or references.

Managing a network of computers and other devices is always a challenging task. There are many fine software programs available to manage such networks. One of the main drawbacks of these applications is that they require the systems/network manager to be connected to the network and use some client software on their management device to perform management tasks. This invention describes a means to perform system/network management tasks using a simple telephone handset. This allows an administrator to call in from virtually anywhere in the world and perform his/her tasks without requiring access to a data network. There are many occasions when a systems manager will not have access to a data network. This invention will permit them to respond to critical situations rapidly using an easy to use voice interface. This invention provides a new interface to manage systems and eliminates the complexity of setting up custom voice applications for this purpose.

2. Summary of Invention: Briefly describe the core idea of your invention (saving the details for questions #3 below). Describe the advantage(s) of using your invention instead of the known solutions described above.

Typical system/network management software permits an administrator to define the network and systems he/she will manage and the administrative tasks that can be performed on those systems. This invention will augment these software packages to include a speech based management component. This component will automatically create the speech grammars, vocabularies and other configuration data required by the speech application. As systems are added to or removed from the network, this component will automatically update all the speech configuration data to reflect the updated network. An administrator can call in to a easy to use speech application that will authenticate the administrator and permit him/her to perform tasks on any of the systems within the network that he/she is authorized to perform.

3. Description: Describe how your invention works, and how it could be implemented, using text, diagrams and flow charts as appropriate.

The figure below shows a telephony enabled systems management component in a network data facility. Boxes market Systems 1,2,.... are systems that need to be monitored by the systems management function. The feature can be accessed via a graphical browser locally or remotely. The telephony speech enablement of the systems management function automatically maps newly added systems for speech interface.

The operating system on System 1,2,3, ...is enabled with autonomous agents that collect the installation information for functions and features installed which are Speech enablement ready.

There are three levels of enablement

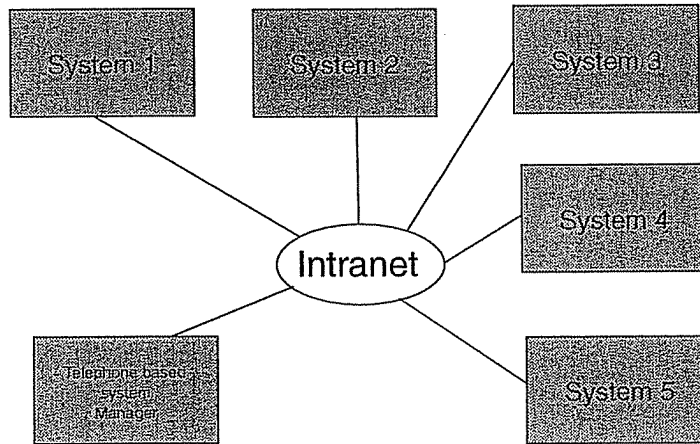
- Installation level enablement
 - Select Features that need monitoring
- Configuration level enablement

- Customize prompts/grammars
- Deployment level enablement
- Central systems agent enrollment of new system

The users would at install time configure such information and would automatically create the information necessary for the systems management. Autonomous agents in the systems management would create the grammars, prompts and application logic to access these functions via a telephony or voice over IP Speech interface.

A standard Voice Recognition and Text to Speech system like the IBM Websphere Voice Server coupled with the systems management utility can be used to deploy these features.

Telephony System Manager



*Patent Questions

- * 1. Select the single most appropriate technology category for your invention from the following technologies list.
 (652) PPM 600 Software/Services/ Applications/Solutions 652 Speech recognition & processing (including voice browsing and voice control)

Comments

Are there any additional significant markets where the invention is likely to have impact?

☒ Yes ☐ No

Please identify them:

Network management solutions

- * 2. Have you implemented the invention (e.g., made a prototype) or otherwise shown that it is workable?
☐ Yes ☒ No

- * 3. Has the subject matter of the invention or a product incorporating the invention been offered for sale, or is it likely to be offered for sale as part of an IBM product or service?

- ☒ No known product plans within 2 years
☐ Maybe, CA and 8 years away
☐ Yes; CA within 3-12 months
☐ Yes; CA within 6 months
☐ Yes; product has been announced

*4. Has the invention been commercially used (internally or externally) by IBM or another entity (e.g., included in a product or prototype provided to a customer)?

- ☐ Yes ☒ No

*5. In what type of product might a competitor include the invention?

Systems/Network management

What company(s) (in which country of such competitors, if not United States)?

Computer Associates

Islandia, Backlund, USA

*6. How easily can the use of the invention by a third party be detected?

- ☐ Undiscoverable by third party (must do physical IBM work)
☐ Difficult, even with reverse engineering or examination of available code
☐ With work, even using test cases but not reverse engineering
☐ Easily, by running or viewing product operation
☒ Trivially, without purchase of product (e.g., by reading product literature)

*7. Is the invention applicable to standards?

- ☐ Yes ☒ No

*8. Have you, or any of the other inventors, submitted this invention disclosure or a similar invention disclosure previously?

- ☐ Yes ☒ No

**9. Please list the invention disclosures (previously submitted or about to be submitted), products, patents, or publications that you and the other inventors feel are the most relevant to your invention (e.g., pertaining to the problem you are solving, including other solutions to the problem), be they from you or anyone else, or if not applicable, enter "None".

Systems management products such as Tivoli, speech recognition products such as WebSphere Voice Server

*10. Was the invention made in the course of any activity that involved any other party, such as:

- ☐ The government
- ☐ A customer (such as an RFQ)
- ☐ A development partner
- ☐ As part of a standard setting activity
- ☐ Other persons not employed by IBM

- ☐ Yes ☒ No

*11. Have you ever disclosed your invention to anyone outside IBM, or do you plan to do so in the future?

- ☐ Yes ☒ No

*12. If the invention relates to a product or service that is outside the scope of your business unit, please recommend IBM business unit(s), IBM location(s) or individual(s) within IBM that you think would provide a competent evaluation of your invention:

*PVT II

All of the questions below are required and must be answered in order to calculate a PVA Score

A. Threshold Questions

- *1. ~~Obviousness~~ Is there an identifiable operable embodiment of the invention (i.e., an embodiment that has been demonstrated or that would be reasonably expected to provide the benefits of the invention)?
- ☐ Yes ☐ No

Reasons for above answer:

- *2. ~~Novelty~~ Are there any prior art concept(s) of the invention novel over what is already known in the literature, existing commercial products, patents, and earlier IBM invention disclosures?
- ☐ Yes ☐ No

Reasons for above answer:

B. Valuation Questions

- *1. ~~Adequacy of description~~
- ☐ Inadequate, invention unclear from description
- ☐ Incomplete, essential features missing
- ☐ Further clarification or implementation details needed
- ☐ Clear and complete as is

State reasons for answer:

- *2. ~~Technical contribution of invention~~:
- ☐ None
- ☐ Minor addition to state-of-the-art technology
- ☐ Significant addition to state-of-the-art technology
- ☐ Major advance in technology

Reasons for above answer:

- *3. ~~Describe the problem solved/benefit provided and the implementation cost of the invention compared to existing or reasonably expected alternatives.~~

- ☐ Minor problem/incremental benefit - significant implementation cost
- ☐ Significant problem, substantial benefit - significant implementation cost
- ☐ Minor problem/incremental benefit - minor implementation cost
- ☐ Significant problem/substantial benefit - minor implementation cost

- *4. ~~Are any alternatives to the invention available to those wishing to avoid its use?~~

- ☐ Suitable alternatives available
- ☐ Alternatives have drawbacks
- ☐ No feasible alternatives

Reasons for above answer:

- *5. ~~Describe the likelihood of success of the invention (answer each).~~

- ~~IBM customers?~~ ☐ Unlikely ☐ Possible ☐ Probable ☐ Definite
- ~~IBM's suppliers/vendors?~~ ☐ Unlikely ☐ Possible ☐ Probable ☐ Definite
- ~~IBM's competitors?~~ ☐ Unlikely ☐ Possible ☐ Probable ☐ Definite
- ~~IBM?~~ ☐ Unlikely ☐ Possible ☐ Probable ☐ Definite

Reasons for above answer:

*6. What % of third party products in the technical field will likely contain the invention?

- ☐ 25%
- ☐ 50%
- ☐ 75%
- ☐ 75%

Reasons for above answer:

*7. How long is the invention likely to be used in products by IBM or others?

- ☐ 5 years
- ☐ 10 years
- ☐ 10-15 years
- ☐ > 15 years

Reasons for above answer:

*8. How easily can use of the invention by a third party be detected?

- ☐ Undiscoverable; third party must admit use for IBM to know
- ☐ Difficult, e.g., with reverse engineering or examination of available code
- ☐ With work, e.g., using test cases, but not reverse engineering
- ☐ Easily by monitoring & viewing product operation
- ☐ Trivially without purchase of product, e.g., by reading product literature

Reasons for the above answer including description of how use could be detected:

Post Disclosure Text & Drawings

To add additional information related to this disclosure once it has been submitted, click the action button below and a new document will be opened for you to enter the new information. To view existing post disclosure information, double-click on the item in the list below (if there has been additional information entered), and the document will open for you to view.

Date entered Post disclosure information (comments and drawings)

Form Revised 09/01/02)

Resource installation

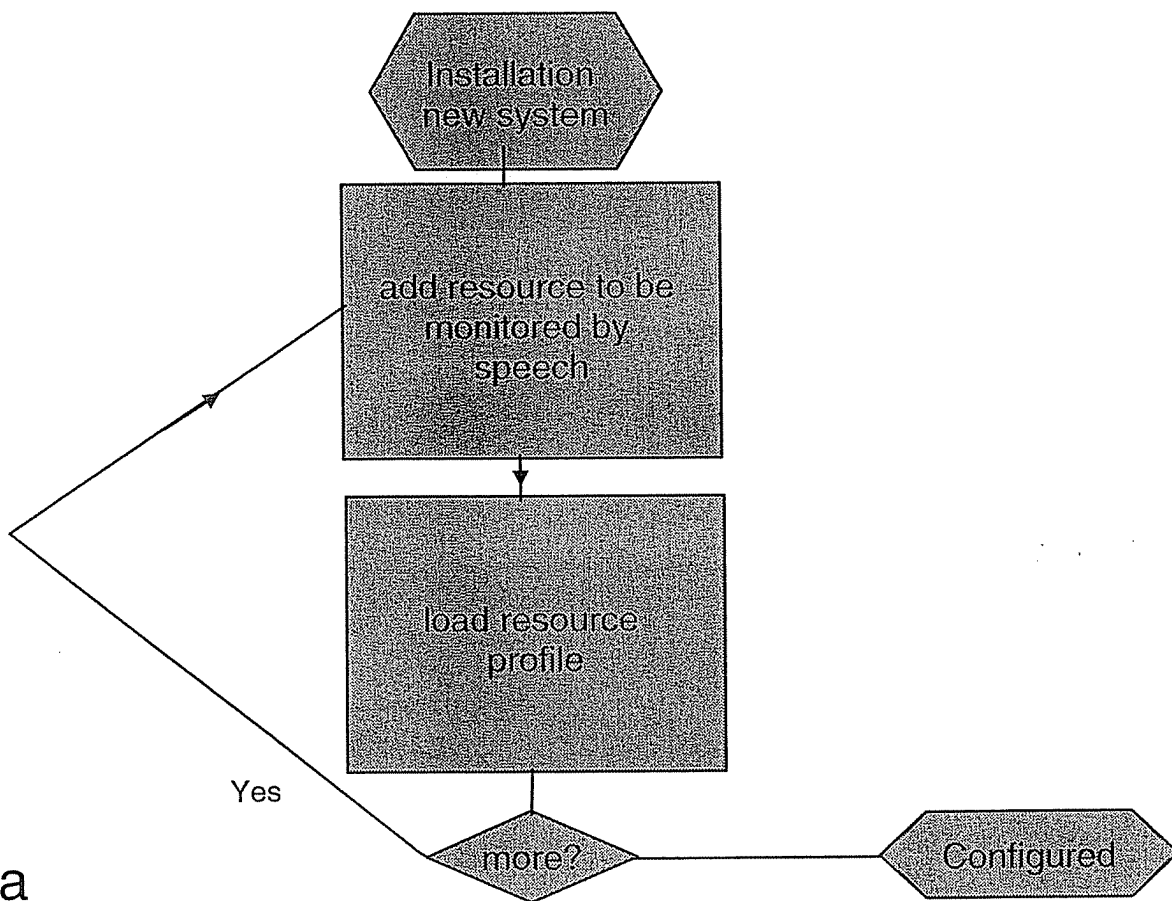


Fig 1a

Autonomous Registration of Resource for Management

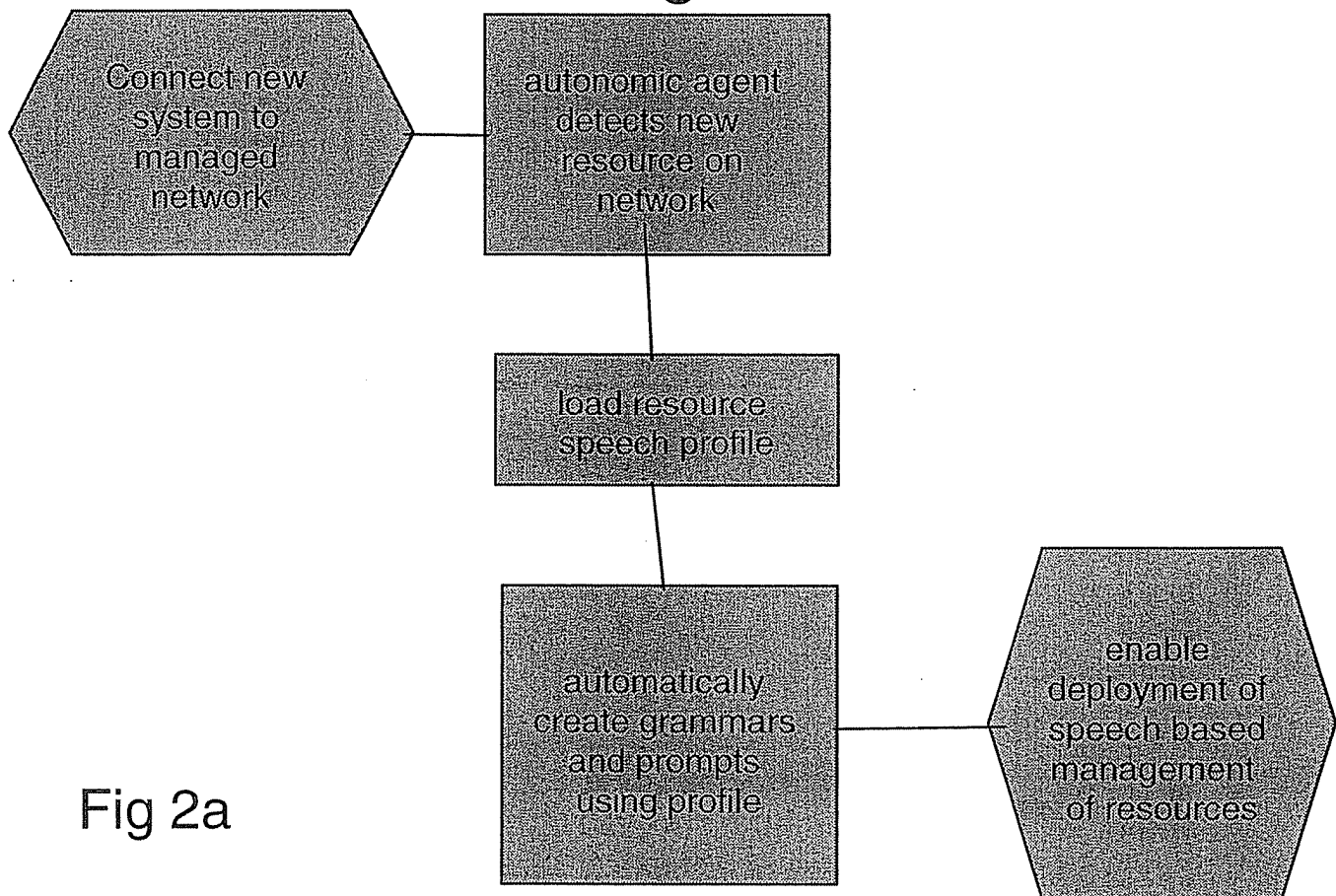
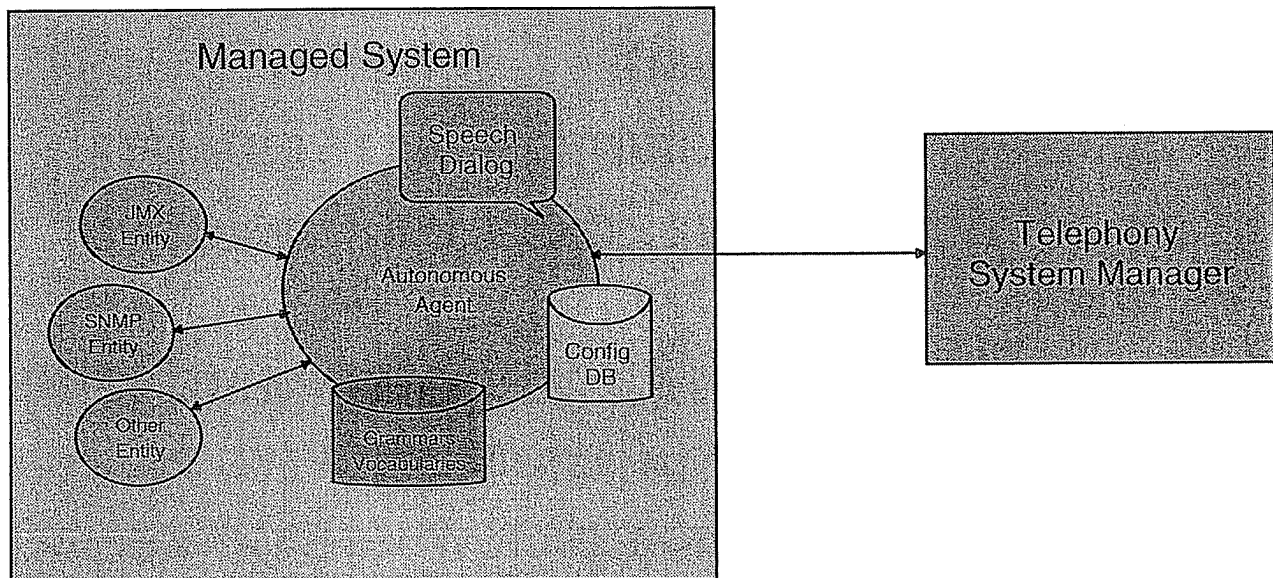


Fig 2a

Figure 3a



Features of Speech Manager

- autonomic speech agent
- Prompts added to master speech manager
- Grammars activated for global and selective navigation
- standard voice call flow aggregation and grammars for resources by category
- Prompts user for adjustments where necessary via admin panels

The main focus of this invention is the automatic creation of the speech components necessary to enable management of a system using speech. This solution provides autonomous agents which can query manageable entities on a system and creates the speech grammars and vocabularies required for the telephone based system manager to manage this system. Further, administrative wizards are provided for the system administrator to register the manageable entities to the agent, configure the telephony system manager and customize the management dialog and prompts. At system deployment, the agent will register with the telephony system manager such that this system would be available for management using speech.

An example usage of this invention follows:

1. Administrator installs this solution on a system and starts the program.
2. Using supplied wizards the administrator defines entities on the system that can be managed via standard protocols such as SNMP, JMX, etc., management access rights, etc. Installation wizard ask for resources to be added. See Figure 1a., 3a.
3. The agent supplied with this solution stores this configuration information and generates the grammars and vocabularies required by the speech engines of telephony system manager such as the IBM WebSphere Voice Server. It also generates a speech dialog necessary to manage this system.
4. The administrator customizes the speech dialog, prompts, grammars, etc.
5. The administrator enables speech management of this system using a wizard upon which the agent registers all the necessary information with the speech engines of the telephony system manager. See Figure 2a.
6. When the administrator calls the telephony system manager and selects this system by name, the telephony system manager contacts the agent on the system which will serve up speech dialog for managing that system.
7. As new entities are added to the system, they can be registered with the agent so that they can be managed using speech.